Milcom International

TB 100 Series • Fully Transportable Base Stations

Technical Highlights:
Provides complete coverage of the following bands: 30–50 MHz FM, 30–88 MHz FM, 116–152 MHz AM, 138–174 MHz FM, 225–400 MHz AM, 406–512 MHz FM.

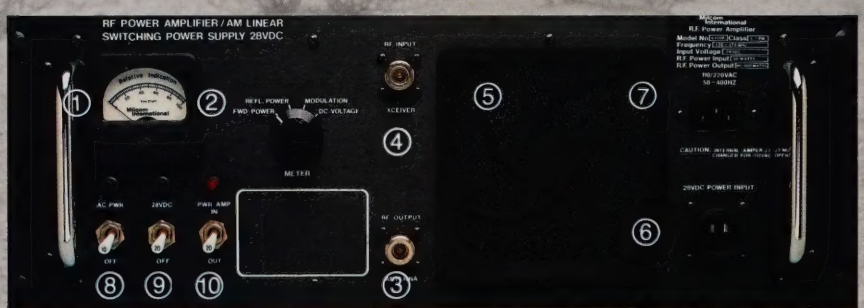
- Ideal for Public Safety, Quasi-Military, Emergency/Portable Airfield, and Government Communications.
- 10 or 100 Watts of power output.
- Internal switching power supply for 110/220 VAC operation.

Transportable Base Stations are completely self contained high power transceivers covering all of the VHF and UHF Communications Bands. The units contain a switching power supply for operation from 110/220 VAC. They may also be powered directly from 22–32 VDC. Digital synthesis is utilized to afford high channel capacity. Thumbwheel switches provide direct frequency entry of up to 100 channels of memory access. High/low power output (100/10 Watts) is front panel selectable. All critical amplifier functions are monitored by meter. The transceiver is modularized for easy field maintenance, packaged in an 18.5″ x 14.5″ x 20.6″ weatherproof carrying case. (47.0 cm x 36.8 cm x 52.3 cm) and weighs 65 lbs (29.5 kgs) complete.

Milcom's custom control head is designed for ease of operation. The frequency (in MHz) can be entered directly through the thumbwheel switches or one of up to 100 preset channels can be selected in a similar manner. Volume control and squelch test are located on this panel as well as indicator lights to verify operation of the transceiver.

1. On/off indicator, **2.** Squelch test indicator, **3.** Transmit indicator, **4.** Preset channel indicator, **5.** Direct frequency entry thumbwheel switches, **6.** Preset channel select switch, **7.** Volume control, **8.** Squelch test switch, **9.** Light dimmer control.

Optional LCD Frequency Display
This displays the frequency presently selected. Large liquid crystal numerals give exceptional visibility. Indirect lighting assists low light or night use.



100 Watt RF Power Amplifier:
This RF power amplifier is capable of producing 100 watts of carrier power output across the transceiver's operation frequency range. AM amplifiers have the capability of providing up to 400 watts of peak power for 100% upward modulation. The amplifier incorporates mismatch protection, automatic power leveling, failsafe bypassing, forced air cooling and metering of key functions.

1. Meter, **2.** Meter Selector, **3.** RF Input, **4.** RF Output, **5.** Fan Filter, **6.** 28 VDC Input, **7.** 110/220 VAC input **8.** AC Power On, **9.** DC Power On, **10.** RF Amplifier In/Out

MILCOM INTERNATIONAL, INC.

LAND MOBILE AMPLIFIERS

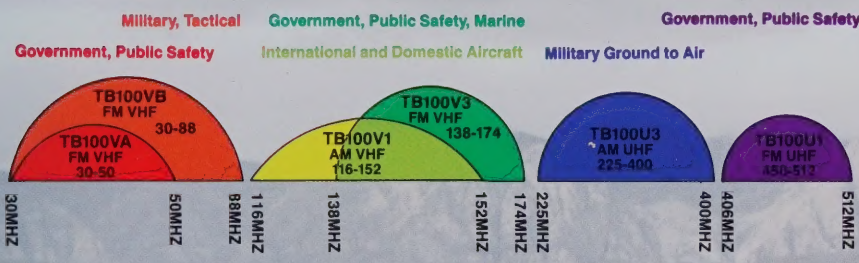
For applications in Business, Industrial, Public Safety
and Government Communications

Frequency Range	Input	Output	Input	Output	Input	Output
VHF Low Band[1]						
30 - 50 MHz	2-15W	50-100W	15-40W	100-160W		
Model No.	PA100-15A12V		PA160-40A12V			
VHF Mid-Band[2]						
66 - 88 MHz	2-15W	30-80W	15-40W	80-120W		
Model No.	PA80-15B12V		PA120-40B12V			
VHF High Band[3]						
136 - 174 MHz	1-6W	10-40W	10-30W	60-100W	10-40W	50-160W
Model No.	PA40-6E12V		PA100-30E12V		PA160-40E12V	
UHF Low Band[4]						
450-512 MHz	1-15W	6-60W	1-15W	40-120W	15-35W	50-120W
Model No.	PA60-15H12V		PA120-15H12V		PA120-35H12V	
UHF High Band[5]						
806 - 890 MHz	1-3W	10-25W	1-15W	60-90W	15-35W	60-90W
Model No.	PA25-3K12V		PA90-15K12V		PA90-35K12V	

Notes:

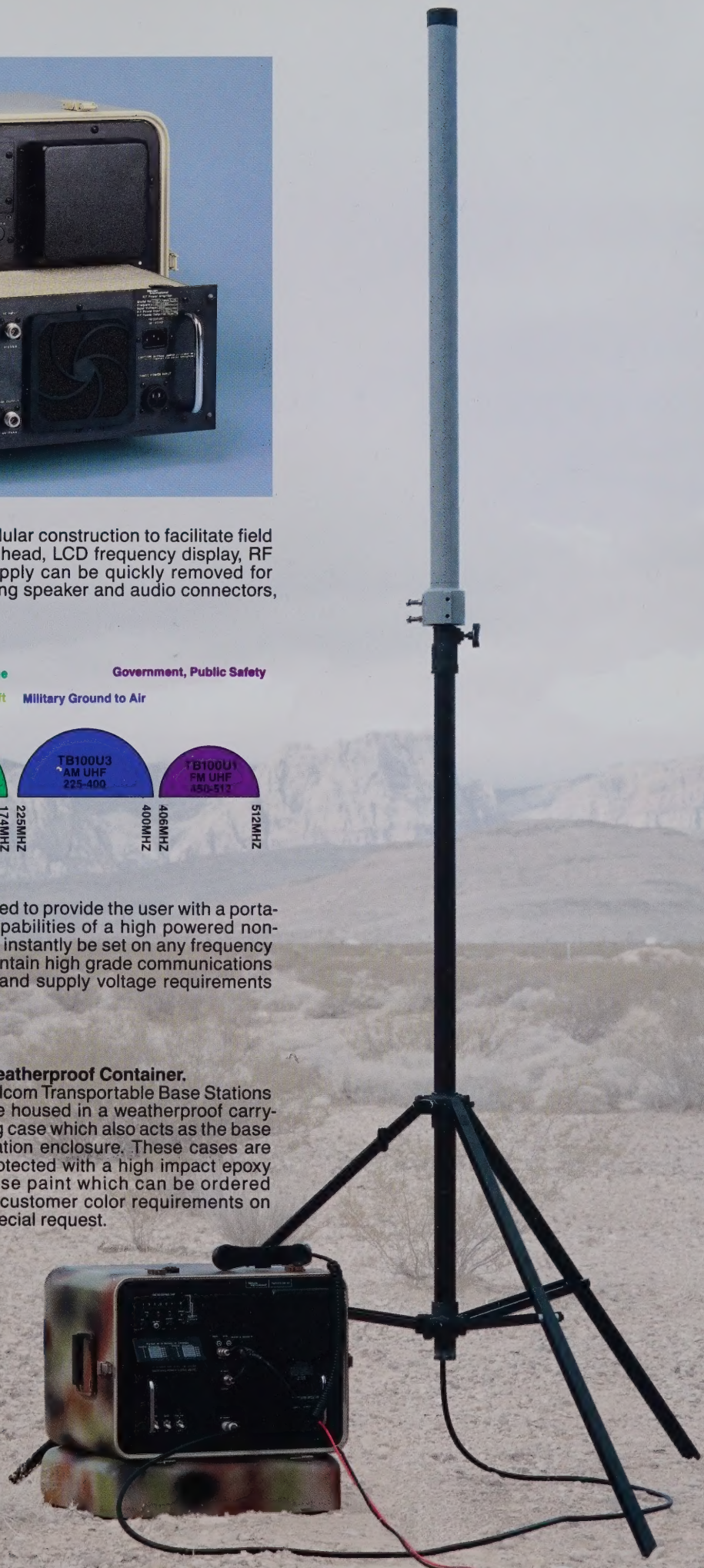
1. Lowest Frequency available is 35 MHz in the United States.
2. Only type-accepted for 72 - 76 MHz use in the United States.
3. Standard range options are 136 - 150 MHz or 150 - 174 MHz. Entire range of 136 - 174 MHz can be specially ordered.
4. Full coverage of the 415 - 450 MHz range can be specially ordered.
5. VHF high band range options are 806 - 850 MHz or 857 - 890 MHz.

Modular Construction.
Milcom Transportable Base Stations are of modular construction to facilitate field maintenance. Each key sub-assembly: control head, LCD frequency display, RF power amplifier, transceiver and AC power supply can be quickly removed for repair or exchange. All internal cabling, including speaker and audio connectors, are readily removed for inspection or repair.



Emergency Transportable.
Milcom Transportable Base Stations are designed to provide the user with a portable communications base having all of the capabilities of a high powered non-transportable fixed station. The transceiver can instantly be set on any frequency and provide the power output necessary to maintain high grade communications levels. Custom frequencies, RF power output and supply voltage requirements can be provided upon request.

Weatherproof Container.
Milcom Transportable Base Stations are housed in a weatherproof carrying case which also acts as the base station enclosure. These cases are protected with a high impact epoxy base paint which can be ordered to customer color requirements on special request.



General Specifications	Model TB100VA-28/AC	Model TB100VB-28/AC	Model TB100V1-28/AC	Model TB100V3-28/AC	Model TB100U3-28/AC	Model TB100U1-28/AC
Band	FM VHF	FM VHF Tactical	AM VHF	FM VHF	AM UHF	FM UHF
Frequency Range	30–50 MHz	30–80 MHz	116–152 MHz	138–174 MHz	225–400 MHz	406–512 MHz
Channel Capacity	2000	2320	1440	14400	7000	1600
Channel Spacing	10 KHz	25 KHz	25 KHz	2.5 KHz	25 KHz	12.5 KHz
Environmental	−30C to +50C	−30C to +50C	−25C to +50C	−20C to +50C	−25C to +50C	−30C to +50C
DC Power Input	+28 VDC Nominal, 22 to 32 VDC operational	+28 VDC Nominal, 22 to 32 VDC operational	+28 VDC Nominal, 22 to 32 VDC operational	+28 VDC Nominal, 22 to 32 VDC operational	+28 VDC Nominal, 22 to 32 VDC operational	+28 VDC Nominal, 22 to 32 VDC operational
AC Power Input	110/220 VAC 50 to 400 Hz	110/220 VAC 50 to 400 Hz	110/220 VAC 50 to 400 Hz	110/220 VAC 50 to 400 Hz	110/220 VAC 50 to 400 Hz	110/220 VAC 50 to 400 Hz
Antenna Impedance	50 OHMS	50 OHMS	50 OHMS	50 OHMS	50 OHMS	50 OHMS
Transmitter Specifications:						
Power output						
High	100 Watts	100 Watts	100 Watts	100 Watts	100 Watts	100 Watts
Low	10 Watts	10 Watts/2 Watts/.1 Watt	10 Watts	10 Watts	10 Watts	10 Watts
Frequency Stability	.0005%	10 PPM	.0005%	.0005%	.0005%	.0005%
Frequency Stability (1 year period)	.0005%	10 PPM	.0002%	.0005%	.0002%	.0005%
Audio Distortion						
@ 80% modulation	N/A	N/A	5%	N/A	5%	N/A
(3.3 KHz Deviation)	5%	5%	N/A	10%	N/A	N/A
Microphone Input	Carbon, 50 to 100 ohms	Carbon, 50 to 100 ohms	Carbon, 50 to 100 ohms	Carbon, 50 to 100 ohms	Carbon, 50 to 100 ohms	Carbon, 50 to 100 ohms
Modulation Control	Limiter	Limiter	AGC	Limiter	AGC	Limiter
Modulation Depth						
20 dB input change	N/A	N/A	±10%	N/A	±10%	N/A
Adjustment Range	to 5 KHz	to 10 KHz	N/A	to 5 KHz	N/A	to 5 KHz
Spurious & Harmonics	−75 dBC	−60 dBC	−75 dBC	−75 dBC	−75 dBC	−75 dBC
Mismatch Protection	10:1 VSWR	10:1 VSWR	10:1 VSWR	10:1 VSWR	10:1 VSWR	10:1 VSWR
Power Output Leveling	±1.5 dB	±1.5 dB	±1 dB	±1.5 dB	±2 dB	±1.5 dB
Receiver Specifications						
Sensitivity						
30% Mod = 10 dB S + N/N	N/A	N/A	4 μV	N/A	4 μV	N/A
12 dB SINAD	.6 μV	.35 μV	N/A	0.25 μV	N/A	.25 μV
20 dB Quieting	1.0 μV	0.5 μV	N/A	.05 μV	N/A	.4 μV
Selectivity						
±7.5 KHz (FM)	−6 dB max	−6 dB max	N/A	−6 dB max	N/A	−6 dB max
±10 KHz (AM)	N/A	N/A	−6 dB max	N/A	−6 dB max	N/A
±15 KHz (FM 10 KHz DEV.)	N/A	−6 dB max (optional)	N/A	N/A	N/A	N/A
±25 KHz (FM)	N/A	N/A	N/A	−75 dB min	N/A	N/A
±50 KHz (AM)	N/A	N/A	−70 dB min	N/A	−70 dB min	N/A
Image Rejection	75 dB min	70 dB min	70 dB min	80 dB min	70 dB min	75 dB min
Adjacent Channel Rejection	70 dB min	70 dB min	70 dB min	75 dB min	70 dB min	70 dB min
AGC Characteristics for max. 6 dB change in audio level	N/A	N/A	4 μV to 1 V	N/A	4 μV to 1 V	N/A
Audio Output 80% Modulation or 4.3 KHz Deviation Across 4 Ohm Load	5 Watts	5 Watts	5 Watts	5 Watts	5 Watts	5 Watts
Audio Response 300 to 3000 Hz	±1 dB from 6 dB/Octave pre-emphasis	±1 dB from 6 dB/Octave pre-emphasis	± 3dB	±1 dB from 6 dB/Octave pre-emphasis	±3 dB	±1 dB from 6 dB/Octave pre-emphasis
Specifications for optional Guard Receiver All Specifications except channel capacity	Same as main receiver	Same as main receiver	Same as main receiver	Same as main receiver	Same as main receiver	Same as main receiver

For further information or special requirements, contact your local representative or customer service at Milcom, Inc.

Milcom International Inc. 10701 Bloomfield Street, Los Alamitos, California 90720, (213) 430-0516 Telex: 6711786

Your local representative is:

All specifications are subject to change without notice.